Plug-In To eCycling

with U.S.EPA

Voluntary Shared Responsibility Pilots for Electronics Recycling

DRAFT

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INTRODUCTION AND CONTENTS

This document provides information on the U.S. EPA's Voluntary Shared Responsibility Pilots for Electronics Recycling, also called its Plug-In To eCycling pilots. Specifically, enclosed are a description of the goal, approach, and timeline for the Plug-In pilots, a summary of characteristics U.S. EPA sees as critical to voluntary shared responsibility for electronics recycling, and a description of each of the four Plug-In To eCycling pilots. In addition, as U.S. EPA's and many others' interest in electronics goes beyond their end of life management, also enclosed is a brief list of U.S. EPA projects focused on all phases of the electronics life cycle and a timeline for these efforts.

VOLUNTARY SHARED RESPONSIBILITY PILOTS FOR ELECTRONICS RECYCLING

PROJECT GOAL

EPA's goal for this effort is simple: to help demonstrate the kinds of voluntary partnerships that can significantly increase recycling of used electronics in the United States, and in doing so, help to inform more comprehensive national solutions to the electronics waste challenge.

APPROACH

The National Electronics Product Stewardship Initiative (NEPSI), a multi-stakeholder dialogue underway for the last two-plus years, is seeking to identify a harmonized, national financing system to support collection and recycling of discarded electronic products. Pending a national solution, NEPSI participants and many others recognize the need for coordinated voluntary partnerships to greatly increase collection and recycling of discarded electronics. Thus, EPA is joining with partners in four areas of the country to pilot voluntary "shared responsibility" for discarded electronics. In June 2003, EPA convened a series of meetings with governments, electronics manufacturers, retailers, recyclers, and non-governmental organizations to shape the pilot projects and solicit interest in participation. Through the pilots, EPA and the other pilot participants hope to collect information that will inform the development of a national solution to the problem of electronics waste management.

The pilot teams are continuing their recruiting efforts and hope to conclude Memoranda of Understanding with participating manufacturers, retailers and recyclers later this fall. Following implementation of the pilots this winter and next spring, EPA intends to host a national summit on the outcome of the pilots in September 2004. Please see the attached timeline for more information.

CORE CHARACTERISTICS

The success of the pilots depends on "critical mass"-a significant cadre of manufacturers, retailers, governments, recyclers, and non-government organizations committing to participate. With "critical mass" we can test the following:

1) **Manufacturers** working with retailers and local governments who are willing to collect materials. Manufacturers pay for recycling (processing) of their products and ensure recyclers with which they contract adhere to environmentally safe management guidelines.

2) **Retailers** educate consumers about recycling opportunities in their neighborhood and work with local governments to help provide collection opportunities.

3) **Local and state governments** provide collection opportunities, alone or in conjunction with retailers or recyclers, and contribute to getting collected products to consolidation points.

4) **Manufacturers, retailers, and local governments** jointly determine and model an equitable way to cover transportation costs.

5) **Recyclers** provide preferable cost terms for larger quantity, longer-term contracts and meet environmentally safe management guidelines.

6) **Non-government organizations assist in informing and motivating the public to safely recycle** their old electronics.

7) **EPA** facilitates the development, implementation, and evaluation of pilots as well as the application of lessons learned to a national system; recruits participants to and rewards achievements made in pilots. With participants and other interested parties, develops an actionable plan for the scale up of the viable approaches seen during the pilots.

8) **Consumers do their part** - they return their products to designated locations and help pay for this service where locally required.

PILOT DESCRIPTIONS

Region 1: Partnership Between Staples and the Product Stewardship Institute: Pilot Project to Collect and Recycle Used Computers Using Reverse Distribution Systems

Pilot Purpose and Approach

Staples, Inc., an $11.6 billion retail and commercial seller of a wide range of office products, including supplies, technology, furniture, and business services, has partnered with the Product Stewardship Institute (PSI) to launch a program to measure the success of retail-based electronics recycling. PSI is a national organization that seeks to reduce the health and environmental impacts from consumer products.

Approach: In this pilot project, Staples will collect and recycle used computers, peripherals and office equipment from its customers. The project will provide a model for other retailers and will be a shared responsibility partnership between Staples, its suppliers, manufacturers, and key program partners. The goal of the pilot is to create a sustainable business model for long-term electronics collection and recycling. PSI will collect data from Staples' retail and delivery operations. The project will include 26 collections at retail stores in the Dayville, Connecticut distribution network; 24 collections from corporate customers surrounding the Putnam, Connecticut warehouse; and 24 collections from Internet or catalog customers serviced by its North Reading or Sharon, Massachusetts delivery hub.

Contributions: Staples will use its labor, transportation equipment, and storage capacity for this pilot project. Manufacturers that participate in the pilot will be asked to share the costs of transporting used electronics from consolidation points to the recycler, as well as a share of the recycling costs. Local and state government agencies in the pilot collection areas will be involved in designing the project, promoting the collections, and providing technical assistance and regulatory guidance regarding the handling of collected materials.

Project Description: Project partners will test and measure reverse distribution as a unique strategy for transporting old computers and other business equipment from consumers to recyclers. Partners will calculate the real costs of collecting and managing end-of-life electronics through the same channels that provide new products to consumers. PSI will compile and evaluate data, assess the potential to expand this program nationwide, and tie these findings into the developing nationwide collection and recycling system. If reverse distribution proves to be an efficient system, it could result in significant cost reductions for a national electronics program.

Partners

- Massachusetts Department of Environmental Protection
- Staples, Inc.
- Connecticut Department of Environmental Protection
- EPA Region 1
- Product Stewardship Institute
- WasteCap of Massachusetts
- Local and national environmental organizations
- Established Staples' computer suppliers
- Other manufacturers (based on returns)

Contacts

- Mark Buckley, Staples, Inc., 508 253-0510
- Scott Cassel, Product Stewardship Institute, 978 934-4855
- Marie Steinwachs, Product Stewardship Institute, 417 725-9064

Region 3: eCycling Pilot in the Mid-Atlantic: Pilot Project to Test the Effectiveness of Government Managed Collection Programs When Assisted by Manufacturers and Retailers

Pilot Purpose and Approach

Approach: The goal of the pilot is to generate a substantial flow of materials to: (1) determine if a large scale, region-wide shared responsibility approach can become the model for a national solution; and (2) investigate and develop creative ways to reduce costs and improve collection/recycling processes. It is envisioned that a large majority of manufacturers/retailers will participate and will join government to share the financial responsibility. The scope and success of the Region 3 multi-state collection pilot depends both on the level of monetary contributions and on the level of involvement from manufacturers, retailers, recyclers and government in designing and implementing the pilot. This pilot proposes to hold 150 events in six states for a 1-year period and to provide a forum for all stakeholders to help shape a program that best meets their needs. The actual scope and success of this large scale pilot, however, will depend on the level of financial resources committed by all stakeholders.

Desired Outcome: The eCycling pilot plans to test a number of approaches to shared responsibility that will be offered and designed by the participating stakeholders. Some of the approaches will include: (1) testing the viability of new manufacturer-retailer relationships to offer mutual, sales-related incentives to the participating partners; and (2) testing the impact of end-of-life fees collected by local governments on driving down dismantling costs.

Financial Commitments: The pilot will be funded, in part, through lump sum contributions from participating stakeholders in the range of $600,000 to $800,000. It is expected that EPA, state environmental agencies, and local governments will contribute financially through cash contributions, in-kind services, end-of-life fees, taxes, and other means.

Structure: Payments will be made to a third party organization that will contract with a recycler that can meet ESM guidelines for participation in the Plug-In To eCycling program. This pilot calls for the committed involvement of all participants in shaping, implementing, and analyzing the results of the pilot.

How This Pilot Models the Core Characteristics

- Manufacturers pay for the recycling of their products and contribute to other pilot costs.

- Local governments provide collection opportunities and end-of-life fees.
- Retailers and local governments help provide collection opportunities. Tests how retailers and local governments can assist with transportation.
- Manufacturers, retailers, and local governments will jointly determine and model an equitable way to cover transportation costs.
- Recyclers meet environmentally sound management standards. Tests how recyclers can offer more competitive pricing as volumes in increase.
- Consumers pay for service, as required.

Timeline

Pilot will commence within 30 to 60 days of receipt of funding commitments and will run for one year.

Contacts

- Claudette Reed, US EPA, 215 814-2997
- Wayne Naylor, US EPA, 215 814-3385

Region 5: Minnesota Office of Environmental Assistance: Pilot Project to Test the Potential to Institutionalize Episodic, Retailer-Based Collections with Manufacturer Assistance

Pilot Purpose and Approach

Desired Outcome: In light of Minnesota's recent passage of a landfill ban for CRTs, this pilot will look for viable shared responsibility solutions for old consumer electronics. This pilot will test the viability of various retail-based collection strategies with no or minimal fee paid by the consumer at point of collection. This pilot will also test ways in which retailers and manufacturers can collaborate on creating sustainable recycling systems. Two Minnesota-based retailers have indicated an interest in participating in such a pilot whereby retailers will offer one or two day collection events over a defined time period. This pilot is soliciting participation from three other retailers and numerous manufacturers. The collection events will be concentrated in the Twin Cities metropolitan area but will also address collection needs in greater Minnesota.

Financial Commitments: Participating manufacturers will be asked to pay for the processing of their own branded products (or equivalent share) and for a portion of transportation costs to a recycler (estimated to range from $.23 cents/lb to $.35 cents/lb for processing and transportation combined). Retailers will be asked to pay for collection costs and outreach, as well as some transportation if needed. It is expected that the remaining costs for the pilot (e.g., any remaining transportation costs, costs of nonparticipating manufacturers) will be assumed by the other pilot participants such as recyclers and consumers (the latter via modest EOL fees). Of course, the project team will work with interested players to come up with an agreed upon cost sharing approach, much of which will be dependent on how many manufacturers and retailers will agree to participate in the project and what kind of pricing can be negotiated with interested recyclers.

Structure: Manufacturers will contract directly with recyclers to cover their agreed upon costs. Whether these costs will be assessed on actual counts of products sorted by brand or based on estimates of brands collected (derived from sales history/vintage data) will be decided upon by the parties.

How This Pilot Models the Core Characteristics

- **Manufacturers** pay for the recycling of their branded products.
- **Retailers** provide collection opportunities and assist government with outreach and consumer education support.
- **Manufacturers and retailers** test means of sharing transportation costs.
- **Recyclers** offer competitive rates to attract participants and meet environmentally sounds management standards.
- **State government** (OEA) provides project management services and coordinates promotion and compiles final report. Local government and OEA also assist in outreach and education to consumers.
- **Consumers** pay no or a nominal fee (e.g., $1-3) for collection and a portion of transportation costs.

Timeline

Scope and approach of pilot refined this summer with all participants involved. Collections will run the fall of 2003 and spring of 2004. Results will be analyzed in the summer of 2004.

Contacts

- Garth Hickle, Minnesota Office of Environmental Assistance, 651 215-0224

Region 10: Regional Electronics "Take It Back Network:" Pilot Project to Test the Viability of a Regional Network of Ongoing Drop-Offs at Both Small and Large Retailers

Introduction

Government partners in EPA Region 10 are proposing a sustainable, ongoing electronics collection pilot program that is based on principles of product stewardship. We invite partners from the manufacturing, retail and recycling sectors to join us in planning and implementing this innovative, market-based program.

Market Description

The proposed pilot project area provides a substantial market to electronics manufacturers and retailers. The Seattle/Tacoma/Everett and Portland/Vancouver markets rank 12th and 23rd on the Arbitron Designated Market Area (DMA) charts. Combined households of 2,720,180 would rank fifth on Arbitron, between Philadelphia (2,830,470) and San Francisco/Oakland/San Jose (2,436,220). Total population in the proposed pilot area is 4,740,737, or 51 percent of the combined population of Washington and Oregon. Seattle/Tacoma/Everett and Portland/Vancouver historically rank high in solid waste recycling rates, making them prime areas to roll out an electronics recycling program. Washington and Oregon also consistently rank among the top states in computer ownership and Internet access.

Potential Retail Partners

Government partners for the pilot program are developing a mapping template to display locations of all potential retail partner locations in the pilot program market. Detailed maps of the market will be made available indicating specific retail locations and proximity to population centers. We also realize that retail partners may be organized into regional units that may necessitate including some stores outside formal pilot boundaries. Potential retail partners include, but are not limited to:

- AT&T Wireless Services
- Best Buy
- Circuit City
- CompUSA
- Costco
- Fred Meyer
- Fry's Electronics
- Gateway Country
- Good Guys
- K-Mart
- Magnolia Hi-Fi
- Office Depot
- Office Max
- Radio Shack
- Sears
- Staples
- Target
- Video Only
- Walmart

Government Partners

Government partners are working together in EPA Region 10 to provide the basis for an effective electronics product stewardship program. These partners include many of the largest local government entities in Washington and Oregon, including:

- City of Seattle, Washington
- City of Tacoma, Washington
- Clark County, Washington
- King County, Washington
- Kitsap County, Washington
- Portland Metro, serving Multnomah, Clackamas and Washington counties, Oregon
- Snohomish County, Washington

Program Description

The intent of the program is to test providing a network of convenient, ongoing, drop-off facilities where the public can take used electronic equipment for recycling through retail locations. The public wants to recycle at retail. Last year, a research study was conducted asking King County residents where they would prefer to recycle computers. Sixty-seven percent opted to take their equipment to a local retailer, as opposed to a landfill, transfer station, or via a mail-back program.

The public prefers to recycle at retail locations, based on convenience factors. Retail locations of large national and retail chains are strategically located in large population centers. They are often open for extended hours, seven days a week. Recycling at retail also provides consumers with shopping opportunities, and retailers with great sales opportunities.

Ongoing collection is preferable to collection events. People want to recycle when they need to recycle. They may have materials stored in basements, attics and garages for years, but suddenly need the space. Collection events may require the public to wait for weeks or months to recycle. They may also be required to travel long distances with their equipment.

Collection events are not conducive to retail sales. They involve long lines in parking lots, or worse yet, remote collection sites not convenient to the store. Ongoing collection at retail provides sales and promotional opportunities. Collection programs at retail work. Earlier this year, King County sponsored "The Great Mercury Thermometer Exchange" via a regional drugstore chain, Bartell's. During the month of February, 31,265 mercury fever thermometers were collected, surpassing the goal of 30,000. Bartell's mentioned the collection promotion in local radio ads and print circulars, generating increased goodwill and substantial foot traffic at their store locations.

Offering electronics collection at retail can provide the same sales and promotional opportunities as Bartell's experienced. Manufacturers and retailers can team to:

- Offer free recycling to build traffic.
- Offer discounts on specified merchandise to customers who recycle.
- Offer "trade-in" allowances to customers who recycle.
- Offer free pick up and recycling to customers taking delivery of new electronics.
- Offer to forward quality, working electronics that are collected to charities and non-profits.
- Offer to recycle unrepairable equipment brought in for servicing.
- Promote "green" products and products featuring design for the environment to environmentally-minded customers.
- Provide recycling services to corporate customers dealing with large amounts of electronic waste.
- Provide certificates of destruction to customers who seek assurances that information on used hard drives is not accessible.

A convenient, easily accessible electronics collection program will generate public goodwill. Northwest consumers have become increasingly aware of the issues surrounding electronics recycling. They will respond favorably to manufacturers and retailers that step forward to offer solutions to the challenge of collecting and recycling electronics.

EPA and local governments provide strong brand values. Electronics sales currently reap substantial benefits from the ENERGY STAR® brand. And local governments in the Northwest have a proven record in partnering with the private sector on marketing environmental products. These governments, when partnered with business, provide a high degree of consumer credibility and confidence in environmental product sales.

Ongoing collection at retail has already proven to be successful in the Northwest. King and Snohomish Counties have already demonstrated effective electronics recycling programs at retail. King County has coordinated the Computer Recycling Project since 2000; Snohomish County launched the Take It Back Network in autumn 2002. Substantial quantities of electronics materials have been collected via a network of small electronics retailers, refurbishers and non-profits. These programs continue to exist and offer vital recycling options to local residents. In addition to retail collection, electronics recycling is offered on

a limited basis in the market area via non-profits, municipal collection events, private recycler, select transfer station and other options.

The EPA pilot project will add a new layer to the existing Northwest recycling infrastructure. It will test consumer response to recycling opportunities offered by large retailers and backed by manufacturers. And it will gauge the amount of effort retailers will need to put into the program to make it successful. Finally, it will measure the benefits retailers can generate. We feel that this 6-month pilot project is the next step in testing a complete range of recycling options for residents and businesses.

Manufacturers and large retailers are key to a successful program. The combined marketing impact of these partners will also produce better awareness of the issues involved. Participation in promotional partnerships is always maximized when each partner offers in-kind promotion. Retailers are encouraged to provide promotion via in-store signage and collateral distribution, broadcast tags, mentions in print ads and circulars, listing on websites, press releases and media relations campaigns. Manufacturers can also contribute to advertising and media relations efforts.

Recyclers are paid program partners, but are nonetheless an important part of the pilot project team. A network of local recyclers has been developed in the Northwest with considerable experience in electronics recycling. They can work directly with retailers and manufacturers to set up a collection program; provide transportation and sorting services; and guarantee environmentally sound, domestic recycling.

The Take It Back Network will also benefit from the assistance of PRR, a Seattle-based marketing and public relations firm, Cascadia Consulting, a Seattle firm with expertise in environmental policy & planning, education & outreach, research & data analysis, and project management, and Full Circle Environmental.

Costs

The Region 10 electronics recycling pilot project proposes that manufacturers and retailers participate in the costs of collecting, transporting, sorting and recycling electronic waste. Costs could be covered as follows:

- **Retailers:** Costs of collection and consolidation at individual stores or warehouse/distribution centers, program advertising and promotion.

- **Manufacturers:** Costs of transportation, sorting by brand, and costs of recycling own electronic waste. Could cover all or partial costs of recycling non-participating brands and other electronics waste, based upon current market share percentage versus other participating manufacturers.

- **Consumers:** Potentially, partial costs of non-participating brands and other electronics waste.

- **Government:** Program coordination, communications, promotion and publicity. Would hire a logistics expert to assist with the development of the recycler contract and a logistics plan for collecting, transporting and sorting the electronics by brand.

Cost Projections

The Region 10 government partners have constructed a cost projection model to account for the numerous variable factors involved. As discussions progress, different assumptions can be proposed and input into the template. Cost projections for the project will be highly dependent upon the number of partners participating.

Initially, four hypothetical manufacturer partners (Manufacturers A, B, C and D) were included in the cost template, with equal market share percentages inserted to demonstrate how the template functions. The insertion of two retail chains (Chains A and B) with 10 stores each is also an arbitrary assumption. We ultimately want to insert accurate numbers, and most of those can best be provided by the manufacturers and retailers themselves. Consumer contribution of 50 percent end-of-life fee to cover the cost of recycling brands not participating in the pilot was also inserted simply as a starting point for discussion, and could be adjusted depending upon many factors, most notably the number of participating manufacturers.

Costs can only go lower. Initial cost assumptions were based upon discussions with local recycling vendors. These costs are most likely on the high side, based on current volumes. They should decrease as we figure out how to consolidate loads to reduce transportation, collection and sorting costs. Retailers and manufacturers may also have established relationships with recyclers that they will want to use in this pilot that will bring costs down. Our current, high-end assumptions include:

Transportation: .03 per lb., or $1.20 per item, based on average weights
Sorting: .03 per lb., or $1.00 per item
Processing: .33 per lb., or $5 per CPU, $10 per monitor and $20 per TV

Other assumptions, such as 250 total items per month per location, are based upon numbers generated by current electronics collection programs in King and Snohomish counties. As number of manufacturers, their market shares, number of retail locations and other variable factors are determined, they can be input to generate total program cost projections.

Next Steps

Prospective retail and manufacturer partners will be invited via email or personal call to participate in the program. We propose to set up individual meetings in the near future to work out partnership details. We understand that the total number of manufacturer and retail participants will affect the overall effectiveness and cost distribution of the program. So we will make our best efforts to recruit as many active partners as possible.

Contacts

- Lisa Sepanski, King County Solid Waste Division, 206 296-4489
- Sego Jackson, Snohomish County Solid Waste Division, 425 388-6490
- Scott Klagg, Metro Solid Waste and Recycling, 503 797-1665
- Viccy Salazar, US EPA, 206 553-1060
- Lynn William, US EPA, 206 553-2121

Voluntary Shared Responsibility Pilots for Electronics Recycling

June 2003	July–Sept. 2003	Nov. 2003–Jan. 2004	Nov. 2003–July 2004	August 2004	September 2004	Oct.–Nov. 2004
Initial Meetings Marianne Horinko meets with electronics manufacturers, retailers, recyclers, government, and non-government organizations	**Meeting Followup** Initial members of pilot teams host conference calls to address questions from potential participants and gather feedback	**Signing of MOUs** Participants select pilots in which they want to participate and sign MOUs	**Pilot Implementation** Expanded pilot teams (government, manufacturers, retailers, recyclers) implement pilots	**Pilot Evaluation** Pilot teams evaluate pilots and provide findings to EPA	**Summit** Summit on the Future of Voluntary Shared Responsibility for Electronics Recycling: pilot teams discuss evaluations. All brainstorm on next steps	**Implement Next Steps** Pilot teams evaluate and develop plans for implementing next steps. If viable next steps are not identified, effort closes

APPENDIX: OVERVIEW OF SAMPLE EPA ELECTRONICS STEWARDSHIP PROJECTS

National Electronics Product Stewardship Initiative (NEPSI)

Goal: Develop a system, which includes a viable financing mechanism, to maximize the collection, reuse, and recycling of used electronics, while considering appropriate incentives to design products that facilitate source reduction, reuse and recycling; reduce toxicity; and increase recycled content.
Contact: Clare Lindsay, 703 308-7266, lindsay.clare@epa.gov

Plug-In To eCycling Campaign

Goal: Increase the number of used electronics safely collected and recycled nationwide by educating consumers on why it's important and enhancing the infrastructure available for them to do so across the US.
Contact: Katharine Kaplan, 703 308-8659, kaplan.katharine@epa.gov

Proposed CRT Rule

Goal: Facilitate the safe recycling of CRTs.
Contact: Marilyn Goode, 703 308-8800, goode.marilyn@epa.gov

Sustainable Electronics Design Initiative

Goal: Motivate design students to fundamentally re-think electronics design to create more sustainable products.
Contact: John Katz, 415 972-3283, katz.john@epa.gov

Electronic Products Environmental Assessment Tool (EPEAT)

Goal: Develop assessment tool for electronic products using a multi-stakeholder process.
Contact: Viccy Salazar, 206 553-1060, salazar.viccy@epa.gov

ENERGY STAR®

Goal: To help protect the environment for future generations by changing to more energy efficient practices today through a partnership between government, manufacturers, retailers, and consumers.
Contact (manufacturers): Kate Lewis,202 564-3531, lewis.kate@epa.gov
Contact (retailers): Jill Vohr, 202 564-9002, vohr.jill@epa.gov

Federal Electronics Challenge

Goal: Develop a hierarchy of options, which federal organizations can implement to make greener purchasing decisions and better manage their electronic assets, and then challenge them to use it.
Contact: Viccy Salazar, 206 553-1060, salazar.viccy@epa.gov

SAMPLE ELECTRONICS STEWARDSHIP PROJECTS TIMELINE